

Amendments to the Claims

Please amend claims 6, 29, 33 and 37. The currently pending claims are listed below.

1 - 5. (Cancelled)

1 6. (Currently Amended) A computer-implemented method for managing access to computer
2 resources, the method comprising:

3 (a) defining a respective valuation of each of a plurality of work items to be processed by
4 one or more data processing systems;

5 (b) comparing the respective valuation of each respective said work item to a respective
6 cost of accessing additional computer resources necessary to process the work item in a current
7 time period, said additional computer resources being external to said one or more data processing
8 systems;

9 (c) with respect to each said work item for which the respective valuation of the work item
10 exceeds the respective cost of accessing additional computer resources necessary to process the
11 work item in the current time period, dynamically accessing additional computer resources
12 necessary to process the work item in the current time period;

13 (d) with respect to each said work item for which the respective valuation of the work item
14 does not exceed the respective cost of accessing additional computer resources necessary to
15 process the work item in the current time period, deferring processing of the work item to a
16 subsequent time period; and

17 (e) repeating said (b) through (d) in one or more subsequent time periods with respect to
18 each said work item deferred by said (d) until each said work item has been processed.

1 7. (Original) The method of claim 6 further comprising applying a valuation heuristic to
2 each work item.

1 8. (Original) The method of claim 6 further comprising applying a priority algorithm for
2 preventing starvation of computer resources to those work items which have been delayed,
3 whereby the processing of all the work items in a program is completed.

1 9. (Original) The method of claim 7 further comprising having the priority algorithm
2 increase respective valuations of delayed work items so as to complete processing of each of the
3 work items prior to or at a cut-off processing date of the work item.

10 - 22. (Cancelled)

1 23. (Previously Presented) A method of providing fee-based processing for programs in a
2 processor system, whereby fees are based on utilization of computer resources for completing
3 processing a program, the processor system including at least one processor; a memory coupled to
4 the at least one processor, and a scheduling manager residing in the memory, the method
5 comprising the steps of:

- 6 (a) defining a respective valuation of each of a plurality of programs to be processed;
- 7 (b) comparing the respective valuation of each respective said program to a respective
8 projected fee for utilization of computer resources to process said program in a current time
9 period;
- 10 (c) with respect to each said program for which the respective valuation of the program
11 exceeds the respective projected fee for utilization of computer resources to process the program
12 in the current time period, dynamically accessing computer resources to be applied to process the
13 program in the current time period;
- 14 (d) with respect to each said program for which the respective valuation of the program
15 does not exceed the respective projected fee for utilization of computer resources to process the
16 program in the current time period, deferring processing of the program to a subsequent time
17 period; and
- 18 (e) repeating said (b) through (d) in one or more subsequent time periods with respect to
19 each said program deferred by said (d) until each said program has been processed; and
- 20 (f) assessing a fee for the dynamically accessed computer resources to be used.

1 24. (Original) The method of claim 23 further comprising applying a valuation heuristic to
2 each work item for establishing the valuation of each work item.

1 25. (Original) The method of claim 24 further comprising applying a priority algorithm for
2 preventing starvation of computer resources to those work items which have been delayed,
3 whereby the processing of all the work items in a program is completed.

1 26. (Original) The method of claim 25 wherein the dynamic determination is based on
2 different attributes of the one or more work items forming at least part of a program.

27. (Cancelled)

1 28. (Previously Presented) The method of claim 6, wherein said method is used in a
2 networked environment including a grid of computing resources, and a request manager of the
3 grid to receive requests of one or more customers for utilization of computing resources of the
4 grid; wherein said additional computer resources comprise computing resources of said grid of
5 computing resources; wherein one or more computer systems of a customer is coupled to the
6 request manager and include one or more processors; a memory coupled to at least the one
7 processor; and, a scheduling manager residing in the memory and executable by the at least the
8 one processor.

1 29. (Currently Amended) An A data processing apparatus comprising:
2 at least one processor;
3 a memory coupled to the at least one processor; and
4 a scheduling manager residing in the memory and executable on the at least one processor,
5 the scheduling manager dynamically managing access of each of a plurality of work items to
6 additional computer resources ~~other than the at least one processor external to said data~~
7 ~~processing apparatus~~ for processing the respective work item, each said work item being a
8 respective item of work performable by a data processing system and having a respective
9 valuation;

10 wherein said scheduling manager, in each of a plurality of time periods, compares the
11 respective valuation of each unprocessed work item to a respective cost of accessing said
12 additional computer resources to process the work item in the respective time period, and with
13 respect to each said work item for which the respective valuation exceeds the respective cost of
14 accessing the additional computer resources to process the work item in the respective time
15 period, dynamically accesses the additional computer resources to process the work item in the
16 respective time period; and with respect to each said work item for which the respective valuation
17 does not exceed the respective cost of accessing the additional computer resources to process the
18 work item in the respective time period, defers processing of the work time to a subsequent time
19 period.

1 30. (Previously Presented) The apparatus of claim 29 wherein the scheduling manager
2 applies a valuation heuristic to each work item.

1 31. (Previously Presented) The apparatus of claim 29 wherein the scheduling manager
2 applies a priority algorithm for preventing starvation of computer resources to those work items
3 which have been deferred, whereby the processing of all the work items is completed.

1 32. (Previously Presented) The apparatus of claim 31 wherein the priority algorithm
2 increases respective valuations of delayed work items so as to complete processing of each of the
3 work items prior to or at a cut-off processing date of the work item.

1 33. (Currently Amended) A program product comprising:
2 a scheduling manager embodied as a plurality of computer-executable instructions
3 recorded on ~~tangible~~ a computer-readable ~~media storage medium~~, wherein said scheduling
4 manager, when executed by a computer system, ~~instructions cause~~ causes the computer system to:
5 (a) compare a respective defined valuation of each of a plurality of work items to be
6 processed by the computer system to a respective cost of accessing additional computer resources
7 necessary to process the work item in a current time period, said additional computer resources
8 being external to said computer system;
9 (b) with respect to each said work item for which the respective valuation of the work
10 item exceeds the respective cost of accessing additional computer resources necessary to process
11 the work item in the current time period, dynamically accesses additional computer resources
12 necessary to process the work item in the current time period;
13 (c) with respect to each said work item for which the respective valuation of the work item
14 does not exceed the respective cost of accessing additional computer resources necessary to
15 process the work item in the current time period, defers processing of the work item to a
16 subsequent time period; and
17 (d) repeats said (a) through (c) in one or more subsequent time periods with respect to
18 each said work item deferred by said (c) until each said work item has been processed.

1 34. (Previously Presented) The program product of claim 33 wherein the scheduling manager
2 applies a valuation heuristic to each work item to establish a valuation for each of the work items.

1 35. (Previously Presented) The program product of claim 33 wherein the scheduling manager
2 applies a priority algorithm for preventing starvation of computer resources to those work items
3 which have been delayed, whereby the processing of all the work items in a program will be
4 completed.

1 36. (Previously Presented) The program product of claim 35 wherein the priority algorithm
2 increases respective valuations of delayed work items so as to complete processing of each of the
3 work items prior to or at a cut-off processing date of the work item.

1 37. (Currently Amended) A networked environment, comprising:
2 a grid of computing resources;
3 a request manager of the grid to receive requests of one or more customers for utilization
4 of computing resources of the grid;
5 one or more computer systems of a customer coupled to the request manager; the one
6 computer system comprising one or more processors;
7 a memory coupled to at least the one processor of the one computer system; and,
8 a scheduling manager residing in the memory and executable on the at least one processor,
9 the scheduling manager dynamically managing access of each of a plurality of work items to
10 additional computer resources ~~other than the at least one processor external to said one or more~~
11 ~~computer systems of a customer~~ for processing the respective work item, each said work item
12 being an item of work performable by a data processing system and having a respective valuation;
13 wherein said scheduling manager, in each of a plurality of time periods, compares the
14 respective valuation of each unprocessed work item to a respective cost of accessing said
15 additional computer resources to process the work item in the respective time period, and with
16 respect to each said work item for which the respective valuation exceeds the respective cost of
17 accessing the additional computer resources to process the work item in the respective time
18 period, dynamically accesses the additional computer resources to process the work item in the
19 respective time period; and with respect to each said work item for which the respective valuation
20 does not exceed the respective cost of accessing the additional computer resources to process the
21 work item in the respective time period, defers processing of the work time to a subsequent time
22 period.

1 38. (Previously Presented) The environment of claim 37 wherein the scheduling manager
2 applies a valuation heuristic to each work item.

1 39. (Previously Presented) The environment of claim 37 wherein the scheduling manager
2 applies a priority algorithm for preventing starvation of computer resources to those work items
3 which have been delayed, whereby the processing of all the work items in a program is
4 completed.

1 40. (Previously Presented) The environment of claim 39 wherein the scheduling manager
2 increases respective valuations of delayed work items so as to complete processing of each of the
3 work items prior to or at a cut-off processing date of the work item.

1 41. (Previously Presented) A computer-implemented method for managing access to
2 computer resources, the method comprising:

3 (a) providing a plurality of work items for processing by one or more data processing
4 systems in a current time period, each work item having a respective valuation;

5 (b) selecting a first subset of said plurality of work items for processing by a first data
6 processing system in the current time period according to said valuations;

7 (c) with respect to each said work item not included in said first subset, comparing the
8 respective valuation of the work item to a respective cost of accessing additional computer
9 resources external to said first data processing system to process the work time in the current time
10 period;

11 (d) with respect to each said work item not included in said first subset for which the
12 respective valuation of the work item exceeds the respective cost of accessing additional
13 computer resources external to said first data processing system to process the work item in the
14 current time period, dynamically accessing additional computer resources external to said first
15 data processing system to process the work item in the current time period;

16 (e) with respect to each said work item not included in said first subset for which the
17 respective valuation of the work item does not exceed the respective cost of accessing additional
18 computer resources external to said first data processing system to process the work item in the
19 current time period, deferring processing of the work item to a subsequent time period; and

20 (f) repeating said (a) through (e) in multiple time periods, wherein any work item deferred
21 by (e) is included in the plurality of work items of each subsequent time period until the work
22 item is processed, and wherein for at least some time periods, the first subset of the respective
23 plurality of work items includes fewer than all of the respective plurality of work items.

1 42. (Previously Presented) The method of claim 41 further comprising applying a priority
2 algorithm for preventing starvation of computer resources to those work items which have been
3 deferred, whereby the processing of all the work items is completed.

1 43. (Previously Presented) The method of claim 41, wherein said method is used in a
2 networked environment including a grid of computing resources, and a request manager of the
3 grid to receive requests of one or more customers for utilization of computing resources of the
4 grid; wherein said additional computer resources comprise computing resources of said grid of
5 computing resources.